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ABSTRACT

The Global 2000 project was a 3-year project aimed at improving literacy in five Massachusetts manufacturing companies. To help determine the project's effectiveness, a team of external evaluators analyzed the relationship between the knowledge students gained in the classroom, their actual performance on the job, and the resulting business impact of students' new performance. The evaluation was conducted using a patented approach called Field Action Testing that entailed in-depth interviews with seven students. The interviews, which each lasted 1.5-2 hours, were designed to elicit students' "internal dialogues" (the typically uncommunicated thoughts and feelings that are sometimes difficult to discuss). All students interviewed mentioned pronunciation, grammar, comprehension, reading, and writing as key areas in which they felt they had improved significantly through their participation in the Global 2000 program. The students' increased capacity to take linguistic risks was credited with invigorating the workplace with a new level of productivity. Teaching practices that students considered helpful were identified along with several teaching practices that students considered barriers to learning in the classroom. (Appendixes constituting approximately 60% of this report contain the following: description of the research methodology; costing illustration; and highlights of the project's business impact.) (MN)

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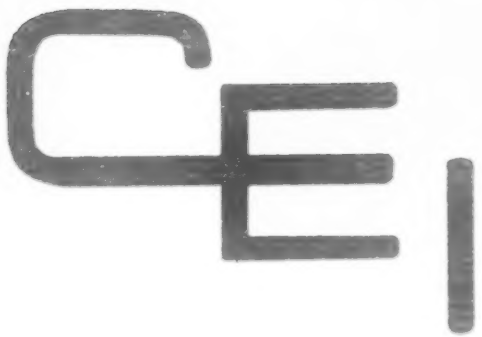

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National Workplace Literacy Program

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GLOBAL 2000 PROJECT EVALUATION:

SUMMARY OF FINDINGS

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July 1997

GLOBAL 2000 PROJECT EVALUATION: SUMMARY OF FINDINGS

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Introduction

The National Workplace Literacy Program, funded by the U.S. Department of Education, was designed to create opportunities for companies to experiment with innovative workplace literacy education programs. The results of these programs are to be used to establish critical success factors for implementing similar education programs longterm.

As part of this national effort, the Continuing Education Institute (CEI) of Watertown, Massachusetts, has provided workplace education via the Global 2000 project, a three-year program geared to improving literacy in five Massachusetts manufacturing companies. To date, over 330 employees/students have participated, and are expected to complete the program. Half of the students' training was offered during work hours, and the other half was on the students' own time.

This report describes the findings generated from a project whose purpose was to evaluate the effectiveness of Global 2000, and establish its business results and value. External evaluators from the Maribett Management Group were contracted to analyze the relationship between the knowledge students gained in the classroom, their actual performance on the job, and the resulting business impact of their new performance. In addition, evaluators identified ways in which the program could be improved in order to maximize its business value in the future.

This report covers the following areas:

- *Specific applications of learning on the job*: A description of how selected skills and concepts taught in the Global 2000 program have been used in action on the job by a sample of participants

- *Business impact of learning on the job*: The resulting consequences of applying the learning, including measurement of the bottom line business impact, as appropriate

- *Barriers to learning and its implementation*: The identification of previously hidden, deeply rooted bottlenecks to learning and/or using what was learned in one's day-to-day work

- *Improvement opportunities:* Recommended program improvements, designed jointly by students and researchers, to address barriers and to maximize the bottom line impact of the program.

Project Outcomes

An innovative approach to program evaluation, called Field Action Testing ™, with its use of distinctive inquiry tools, allowed researchers to produce unique breadth, depth, and precision in their results. Through the analysis of "internal dialogues" (that is, typically uncommunicated thoughts and feelings that are sometimes

difficult to discuss or even undiscussable), researchers were able to tie the learning from the program directly to specific actions and consequences on the job.

Students themselves reported that they received substantial value from participating in the research as well. Specifically, their participation produced important information for them with regard to their interpretations of various situations, and how to make the most, in their daily actions at work, of the material learned in class. (See Appendix A for more information on the research methodology.)

All students interviewed mentioned pronunciation, grammar, comprehension, reading and writing as key areas in which they felt they had improved significantly through their participation in the Global 2000 program. These students applied their most significant learnings in several different ways on the job, which generated business results in the following areas:

- More effective verbal communication
- Greater efficiency
- Willingness to contribute ideas
- Greater capacity for expanded job responsibilities
- Lower error rates

Furthermore, six of seven students expressed gratitude for the opportunity to receive literacy education in their workplace, amidst personal constraints that previously prohibited them from continuing their education. Four of them mentioned benefits gained in daily life as well, (e.g., visiting doctors, lawyers, and other business offices, filling out applications or paperwork, helping children with schoolwork, and writing them notes in English). One student said he'd like to continue learning English if it were offered even on his own time completely.

Business Impact of Global 2000

The following illustrations of key learning applications and their resulting business consequences demonstrate the dramatic impact of creating a learning culture on our nation's assembly lines and production sites. Our findings show that the increased capacity to take linguistic risks invigorates the workplace with a new and profound level of productivity.

More effective verbal communication

Learning to communicate verbally produced a wide range of results, including spending less time per interaction with customers, supervisors, and co-workers, and feeling more confidence with self-expression. One student described how her new skills with the English language prompted her to speak more easily and readily at work:

"...Before like afraid when I speak English because I saw myself, I don't know much English. I open my mouth, I can speak wrong, not correct about the grammar and

the proper pronunciation. But after ... I attend ESL, I feel more comfortable when I speak English. When I think, when I talk, when I have the problem, I can speak out... Like before, sometimes I have problems, but I'm afraid to ask... or something that somebody do that is not right to me, I am afraid to answer back... Some workers they say ' This lady, she nice. She good work. But she quiet. She doesn't talk,' because I am afraid to open my mouth, I not speak right. But now I am not afraid anymore."

This impression was supported by Lois J. Thoms, Manager of Human Resources for Fire Control Instruments, Inc. in her testimony before the U.S. Senate, Labor and Human Resources Committee on May 16, 1997, when she stated, *"We no longer need to use interpreters in our meetings or our day-to-day conversations at work. The employees now speak up and ask questions, explain their problems more clearly, and seek clarification whenever they need."*

Another student described the impact of improved self-confidence and skill with verbal expression gained from the Global 2000 program as follows: "I work with a machine, like a welding machine that was computer... You might think something was wrong [on the machine], I mean you want to change it. Right now, I'm not afraid to speak up. I can turn the question different way. I can talk the words in different way. Explain even if my English not good, I explain the engineer or whatever, my facilitator, what I mean to say... When I started in the beginning, even if I had something to say, but I don't say, because I probably say wrong."

In one instance, this enhanced ability to communicate verbally generated conservatively over $875. per year. On a typical day before Global 2000, a student needed to discuss ECO's (engineering change orders) with a supervisor twice a day. Each interaction typically took 15 minutes, conservatively estimated. After the program, only 5 minutes per day was spent on this kind of interaction. The cost savings was calculated based on an $8.87 hourly wage, and includes neither the cost of benefits nor the supervisor's time. (See Appendix B for a detailed illustration of how costing figures were calculated during this research.)

Other similar instances of time savings due to improved verbal communication between students and their co-workers and supervisors are listed briefly in Appendix C.

Greater efficiency

In addition to more effective interactions due to improved communication skills, another direct business impact deals with the increased level of efficiency generated in the workplace. As Lloyd David, Ed.D., President and Executive Director of the Continuing Education Institute, noted in his statement to the Senate, Labor and Human Resources Committee on May 16, 1997:

"In the past when [the student's] machine broke down, she used to wait for her supervisor to determine and fix the problem. Getting the attention of a busy supervisor could take quite some time. With newly acquired English skills, [the student] has gained self-confidence and now no longer waits. When she has a

problem, she goes directly to the person in the engineering department who can tell her *how to fix it."*

This is further verified in the following quote from a student: "...Took a lot of time because the supervisor do something very important and then she had to stop, come in on my table...If she has something to do -- I have to wait until -- because I cannot talk to, how to express myself... Now, I can call the technician or just somebody, anybody, instead of waiting, wasting her time or wasting my time. Now I can say right there, this is wrong."

In particular, one student's ability to spell and therefore read reduced her need to request the help of a technician to understand written procedures. She said: "[Knowing spelling is helpful]...especially because over here, you say words and it doesn't sound like all the letters are in the word. In my country it is different. You write everything you say...[Spelling is valuable] when I read a procedure, especially, sometimes there are new words there. If I read I understand better than if somebody tells me."

This learning generated a cost savings of $7.50/month, based on an hourly wage of $13./hour, without benefits, and not including the technician's time to provide the assistance. Before Global 2000, she called a technician over 3 times/month, for 15 minutes each time. Now, she only needs a technician's help once a month for 10 minutes. A similar application for another student generated $285.00 month (10 requests per day down to 1 request per day, lasting 10 minutes each, at $9.50/hour). (See Appendix C.)

Another student said that before the program, someone typically came three times to help her figure out instructions for a particular job on a machine. After the Global 2000 program, "I go to a different job with different instructions. I look at the job. I take a little bit of time and I figure it out by myself."

Willingness to contribute ideas

A compelling finding from this research involves the self-assessments and decisions which reside within the "internal dialogue" that drive one's willingness to share ideas, concerns, or questions. Learnings from Global 2000 (pronunciation and verbal communication, specifically) shifted these inner conversations and enabled students to share ideas more freely.

One student in particular had powerful private conversations that led to his withholding his thoughts and ideas: "...because I don't know how to say it. [I might be able to] start it, and then I have to finish it right. Or I probably stutter or say something no make sense or not explain exactly what I 'm trying to, what I'm thinking. If I think I'm gonna make a mistake on how to say right, I prefer not to say it... I want to say something right, the best I can. I don't want to call and then get stuck in the middle of the conversation." He noted that this happened ***50%*** of the time.

He reported great value from his Global 2000 teacher who helped him pronounce English sounds and words: "She make you do with the right expression...show you how to open your mouth or how the tongue... the way the tongue moving inside, the way the mouth shape, that is come out the right way to say the sound... so people understand what I trying to say... She stop and then try to help you say the word and say the letter, how you say the letter, which ones you have to say aloud, which ones you say inside..."

After the program, he reports that he is more likely to make contributions in the workplace. One idea he shared with his team, given his new willingness to speak in English, generated $7000./year in cost savings due to eliminating a step in the production process, saving 2-3 minutes per "leg" of the manufactured item: "That was a big improvement, with the money, with the time... we eliminated the ground, we go right to buffing." The student's idea also won a prestigious innovation award for his team. The innovation suggested by the student had been *overlooked by others for five or six years* until he brought it up.

Another illustration of the value of learning the language is this: One student created a device to improve the manufacturing process, but he couldn't explain why he did it. Supervisors and others attributed negative things about him, such as he's not following procedure or doing the right thing. Because of this, he stopped using the device for a while "because they were mad at me, or maybe I do something wrong...but after this, I said to myself 'Why do you stop?'. First of all, this can make for myself more easy...so I not spend for this (part of the process) too much energy, and I can do better quality, and I don't spend for this too much time by the way. And I try to improve what I want to show for people."

"So what do I do? I look up in the dictionary... I find a special word, I started to make a sentence, and then explain everything for them what I do." He also drew blueprints to use in explaining his actions.

Over the course of *one year's* frequent team meetings, this student tried repeatedly to explain himself and his device. With his improved ability to communicate and his increasing confidence in sharing his idea, "now everybody uses this and it brings for the company a lot of sense and a lot of money and a lot of quality." The result was a higher quality product that was produced more quickly (5 in a day versus 1 1/2 per day). He no longer has to work as hard at expressing himself: "Now I immediately give my idea for people, and they understand me better than I can give them before."

Other illustrations of students who are more willing to contribute ideas are in Appendix C.

Greater capacity for expanded job responsibilities

A significant outcome of improved language comprehension was demonstrated by one student's ability to take on special new projects. Before Global 2000, she performed only the basic requirements of her job. Since then, she has gained the capacity to take on 3-4 special projects per week on average, up from zero. For

example, in the domain of inventory control, without the ability to understand different terms and concepts related to a component's status in the production process, she was unable to take a physical inventory properly, which was key to the business.

Her improved understanding now allows the manager greater flexibility in managing resources and more opportunities to test out different ways of operating in the business (e.g., moving away from a segregated stockroom). Her supervisor conservatively estimates that her capacity for understanding generates at least $6000. of business value per year, based on the notion that she now can do at least 30% of the work of another person who does not need to be hired at $20K/year.

Another student reported that, before her involvement with Global 2000, she was temporarily transferred to a different department in which only English was spoken. She felt "afraid if anything happened... I don't feel that I'm going to stay by myself here alone...But they sent a letter to my supervisor that I did such a good job (that they wanted to hire me.) But I didn't want the job." After her language improved through the program, she reported that she would be willing to take on a new job in an English-speaking environment.

Lower error rates

Students who are more willing to ask for clarification or able to read more accurately have produced lower rates of error in their work. For example, one student before the program typically would say she understood even if she understood the message only partially. Now, she feels more comfortable asking her supervisor to repeat instructions more than once. On one typical occasion before Gobal 2000, she brought a problem to her supervisor, misunderstood the solution, and acted accordingly, unknowingly in error and placed the wrong parts on a board. The error was caught down the production line and the board needed rework.

This student estimated conservatively that her errors were reduced from 6 to 2 per month. Her new skills resulted in less time for rework per month (30 minutes down to 10 minutes). Even more importantly, four fewer errors per month led to a cost savings ranging from under $4.00 up to $120./month for new components, depending on the part.

Another student shared the private thoughts she had when asking for help before the program: "I feel embarrassed because I had to call them for every step I needed, most of it. Now even if I need it, I'm more sure of what I need to look for, so I'm not as embarrassed. I was sort of more afraid than not. Now I feel more confidence to talk to them... I used to worry that they'd say, 'You're so stupid. You don't know?'. But now, ...if I go look for help, that means I want to know what's going on."

Current best teaching practices

Several teaching practices emerged from the research that students felt fostered their learning. Many of the following items were identified by two or more students

as being helpful. Teachers in the Global 2000 program were viewed as effective when they were able to:

- Solicit input from the group with regard to their choice of material to learn, such as sentence building, vocabulary, work-related vocabulary, etc.
- Understand and value the differences in the class, and choose exercises that were relevant for them
- Create a group feeling amongst class members where it was safe to make mistakes
- Check in with the group on a regular basis with regard to pacing, level of material, and full understanding
- Help students with correct pronunciation whenever possible during conversation
- Use partners and small group exercises (e.g., for practice in conversation, reviewing homework, and responding to structured questions on readings)
- Create assignments that involved reading books, newspapers, articles, etc. and then producing a written summary, noting new vocabulary
- Create assignments that involved the group bringing in their own vocabulary words, perhaps from the job, spelling them properly, and then defining them, and using them in sentences
- Give plenty of opportunity to have conversations in order to practice.

Two insightful examples of the fruits of quality teacher sensitivity are described below:

"She welcome me with the open arms. Come in to the English... during the program she's like with open arms... she had a nice attitude. It's something that nobody force you to do it, and you want to do it, you do it. And then I can't wait till tomorrow to go to that class again because she's nice, everything. Plus the class made everything so --- it was a lot of fun. And (with) that fun, I learn alot."

" I thought I would be lost [in math], it's the worst thing I could do, but the way he is teaching he's doing such a good job. He explains until it gets into your brain. And he knows when we're confused or when we understand or we don't know or understand. He says, I don't know if you're confused if you don't tell me."

Barriers to learning and its implementation

Clearly, this research generated grounded illustrations of the business value that was produced from the students applying what they learned in class to their job situation. It also identified teaching practices that students perceived to be helpful.

At the same time, much can be learned about how to maximize the value of this or any educational intervention when *previously hidden* barriers to learning in the classroom and/or its implementation are uncovered.

Some examples of hidden barriers to learning in the classroom that occurred throughout the students' internal dialogues are listed below. All of the barriers were withheld, knowingly or unknowingly, from the teachers.

- Uncertainty about one's ability to be successful during the class; dealing with an inner desire to withdraw from the program versus dealing with the difficulties and hard work

- Beliefs about the group that may or may not be accurate (e.g., the others are ahead of me and know more; the pace is just fine for the others; it's more important for them to get it [to understand this] because they need their citizenship); feeling the need to manage the problem on their own, rather than raising the concern

- Belief that differences between one's learning style and the teacher's style were irreconcilable; student's style preferences remained undiscussable, resulting in student's withdrawal from class

- Fear of speaking up in front of the class in general, without regard to language difficulties

- Perception that teacher spoke too quickly, with complicated words, and gave too much straight lecture. "(If) we understand everything, we don't need the English class."

- Perception that not enough attention was given to spelling and grammar (in the Adult Diploma Program component of Global 2000) so that the student could remember the words, improve vocabulary, and build better sentences.

Some barriers related to on-the-job implementation of the learnings are expressed in the following quotes:

"I forget the next day everything I learned, and that is very bad for me, but unfortunately it's true...it's not a young memory like young kids... If in my life here in this company I have opportunity to talk with people more often than I do, then I have opportunity more often for some instruction. It doesn't matter what... If I have time to write something, I can keep it inside my memory... you know, it's not easy to remember because I still think under my language."

"I want to say it another way. I don't have opportunity for English. I come to work... I do the same job. I'm not talking with somebody... unfortunately this job doesn't give for me this opportunity."

Improvement opportunities

Through the identification of previously hidden barriers to learning *in the classroom*, important lessons were learned about just how to provide the most effective workplace literacy education possible, given the contraints inherent in it. Teacher sensitivity, a thorough understanding of what the student is experiencing, and the need to establish a working dialogue both in and outside of the classroom surfaced throughout the interviews as successful ways to overcome barriers to learning.

These solutions were jointly designed by the researchers and the students during the interviews. They represent possible actions to take or continue taking to address the barriers and maximize the value of the Global 2000 program in the future. More specifically, teachers are likely to be more effective when they are able to make discussable some of the barriers in a safe and productive manner. For example, effective collaborative teachers:

- Check in frequently with the group during class to see how they are doing
- Put forth to the group their internal dialogues (e.g., that they have an inference that students may be experiencing nervousness, for example, or some other feelings about reading aloud, trying a new subject or difficult area, staying with the program, etc.). and check with the group for accuracy. Facilitate an open discussion and work towards designing solutions to the confirmed difficulty.
- Check with the group for clarity and full understanding before moving on.
- Encourage the group to initiate open sharing and testing of their perceptions (e.g., around pacing of material, learning style preferences, unclear concepts being presented, rate of speech, etc.) and ensure that it is done in a safe and productive manner
- Explain and use tools that produce shared meaning and understanding in human interactions in order to maximize the effectiveness of their class time.

With regard to dealing with the barriers that hindered the application of learning *on the job*, the following solutions are proposed for consideration:

- Make available more opportunities to speak with English-speaking people
- Make available more opportunities to read and write, preferably with coaching
- Assist students in finding an on-the-job mentor who can support and encourage them to continue with their efforts to learn.

During the interviews, additional suggestions were proposed to deal with students' possible reluctance to choose to even enroll in the class. Students suggested that recruiters:

- Encourage prospects to voice their objections or concerns about enrolling so that they could be addressed and advice be offered

- Address possible cultural differences around the notion of adults "going to school"
- Invite former students to come to the recruiting session to share their experiences and the value received.

Conclusion

In conclusion, the National Workplace Literacy Program made possible an effective environment for students to make valuable advancements in their literacy skills and contributions to their companies. Using the Field Action Testing™ evaluation approach, researchers were able to identify, document, and measure those specific contributions and the value added to manufacturing companies who were part of the Global 2000 education program. Clearly, this research directly linked the development of a learning culture in organizations with significant business impact.

GLOBAL 2000 PROJECT EVALUATION: SUMMARY OF FINDINGS

APPENDICES

Appendix A: Research Methodology
Appendix B: Costing Illustration
Appendix C: Highlights of Business Impact

APPENDIX A: RESEARCH METHODOLOGY

Field Action Testing (FACT)™, the unique evaluation and continuous improvement system used to evaluate the business impact of Global 2000, made use of distinctive inquiry tools as an important cornerstone of the methodology. These tools are designed to draw out specific action illustrations from the learners' actual experiences, and to tap safely and productively into areas typically not addressed by traditional research methods.

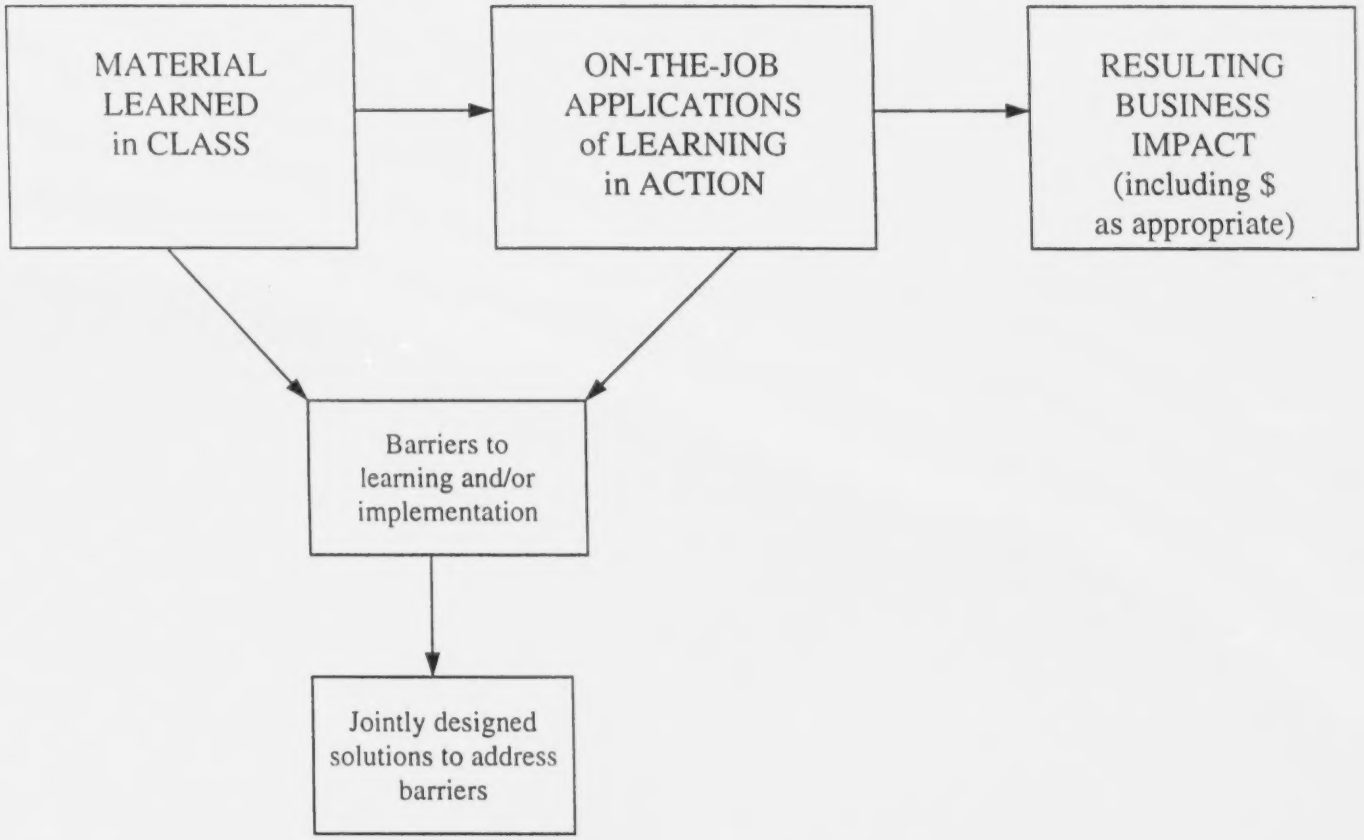
In particular, the research method incorporated students' "internal dialogues" (that is, their typically uncommunicated thoughts and feelings that are sometimes difficult to discuss or even undiscussable). By accessing internal as well as external dialogues, and capturing the thoughts and insights reflected in them, evaluators were able to produce unique breadth, depth, and precision in the results.

The 1 1/2 - 2 hour long interviews were designed to provide substantial value to students as well as to the researchers. Students reported that they learned important information regarding how they interpreted various situations, and how to make the most of the material learned in class in their daily action. Participation was totally voluntary and students were informed that their acceptance or decline of the invitation to participate in no way impacted their job performance evaluation. All invitations were accepted.

A series of seven in-depth interviews were conducted with students who had a range of experience with the program, from very positve to not so positive. This was done by a selection process designed to capture this range of experience. Once the sample was formed, the audiotaped interviews were conducted, transcriptions were made which were then analyzed by trained FACT™ practitioners. Confidentiality standards were established and agreed upon by all parties. Certain findings related to business value, however, were corroborated by appropriate supervisors and/or business managers in order to verify their validity as conservative estimates. Reporting and interpretation of findings were further validated by participating students during the reporting/feedback process.

The interviews followed a semi-structured format to establish the students' most significant learnings. Researchers used a set of tools to obtain grounded illustrations of students learning in action, and to generate precise shared meanings of those learning applications, their resulting business impact, the percieved barriers to implementing learnings, and proposed solutions to the barriers. A quality assurance check was conducted prior to the end of each interview in order to maximize the value of the researchers' own practices in future interactions. The dollar value of the impact, when relevant, was calculated after the interviews based on factors contributed by the students, due primarily to time constraints and availability of precise information.

FIELD ACTION TESTING[tm] APPLIED TO GLOBAL 2000


MATERIAL LEARNED in CLASS
ON-THE-JOB APPLICATIONS of LEARNING in ACTION
RESULTING BUSINESS IMPACT (including $ as appropriate)
Barriers to learning and/or implementation
Jointly designed solutions to address barriers

APPENDIX B: ILLUSTRATION OF COSTING

This research identified specific on-the-job actions produced by the students that were driven by the learning gained during the Global 2000 program. The consequences of these actions were also identified, including, whenever possible, their impact on the bottom line.

The following excerpt is in regard to a student who reported improvements in her reading comprehension which resulted in her needing less assistance to understand written procedures. This is a simple illustration of the way researchers accounted for that learning's contribution to the bottomline.

Student: ... Sometimes, if I don't know exactly what it is, then I call somebody... When I read the procedures, when I see words like this... that I never heard in my life. I don't know exactly what to do with that, so they [technician] come and explain what this means...

Researcher: Can you recall a specific time when that occurred? I'd like you to focus on that time in particular.

Student: OK. I have one in mind. I looked at the procedure and found something, and went over there to try to do it, and then I realized I didn't know exactly what it was, so after a while I called somebody.

Researcher: So, when the technician came over to help you, how many minutes do you think it took?

Student: Maybe fifteen or twenty minutes.

Researcher: Is that typical?

Students: It depends. Some of them like to wait and see if I really understand. Some of them just explain and leave. But fifteen or twenty minutes is typical.

Researcher: What I'm doing is I'm trying to come up with something that is reasonable and very conservative based on what change happened for you as a result of your being better able to read the procedures... Let me check then. Given what you've experienced, "conservative" would be that your requests for help took at least 15-20 minutes each time, and more likely more that than. Does that ring true for you? Are you comfortable with that as a conservative estimate, or is something less than that conservative?

Student: Oh yes. I'd say that's conservative.

Researcher: ...So let's say over a period of time, before the Global 2000 program, how many times do you estimate that you would have had to call over a technician?

Student: (Before the program) if I see something that I don't know or I don't understand, I would have to call somebody to explain every time. That's about 2 to 4 times a month.

Researcher: But now, in a month then, can you tell me, conservatively, how many times do you need to request help?

Student: Not more than once a month.

Again the researchers verifed with the student that that estimate was conservative. Offline, we gathered salary information and verified these estimates with the student's manager. Whenever a range of numbers was presented, we chose to go with the lower of the two numbers in our calculations.

The bottomline impact for this illustration of learning in action was a savings of $36./month, conservatively estimated. Before the program, the requests for help cost $46./month. After the reading gains from the program, the requests for help cost $10./month. Net savings, then, are $36./month.

Here is how the dollar value was derived:

Using the rate of $26./hour for the student (fully burdened salary plus benefits), requests per month lasting 15 minutes each cost roughly $20.00/month (45/60 times $26). Add to that the technician's time for assisting her. Using the rate of $35./hour, fully burdened, these same requests cost another $26.00/month (45/60 times $35). In sum, the requests for help before the program cost roughly $46./month, conservatively estimated.

After the program, our data shows that these requests were reduced to only once a month. Further probing showed that the length of the interaction decreased also to 10 minutes on average. The cost factor here then was reduced to roughly $10./month. (10/60 times $26 plus 10/60 times $35).

APPENDIX C: HIGHLIGHTS OF BUSINESS IMPACT

On-the-job learning application	Change (before and after program)	Calculation*	$ Value/Cost savings
More effective verbal communication			
Less prep time needed to translate into English prior to an interaction with supervisor	Before: 2-5 minutes/interaction, 3X/week After: 0 minutes/ interaction	6 minutes/week x 4 x $8.00/hour**	$3.20/month
Better able to explain problems with machine to supervisor	Before: 6 min./interaction, 3x/week After: 2 min./ interaction, 3x/week	18. min./week x 4 x $8/hour = $9.60/month 6 min./week x 4 x $8/hour = $3.20/month	$6.40/month not including supervisor's time
Better able to understand supervisor's request for an ECO (Engineering Change Order)	Before: 15-20 min./interaction, 10x/week After: 5 min./ interaction, 5x/week	150 min./week x 4 x $8.87/hour = $88.70/month 25 min./week x 4 x $8.87/hour = $14.78/month	$73.92/month not including supervisor's time
Better able to understand internal customer requests for parts	Before: 3 min./difficult interaction x 4/day = 12 min./day After: 0 difficult interactions	60 min./week x 4 x $9.60/hour	$38.40/month not including internal customers' time
Greater efficiency			
Improved vocabulary, spelling and reading led to fewer requests for help from technician in reading procedures	Before: 15 min./request x 3/month After: 10 min./request x 1/month	45 min./month x $13/hour = $9.75/month 10 min./month x $13/hour = $2.16/month	$7.59/month not including technician's time

* Whenever a range of figures was given, the lower of the two was used in calculations

** Calculations are based on hourly wages only and do not include benefits, etc.

On-the-job learning application	Change (before and after program)	Calculation*	$ Value/Cost savings
Improved reading, and verbal communication led to fewer requests for help with procedures	Before: 10 min./request x 10/day After: 10 min./request x 1/day	2000 min./month x $9.50/hour = $316.66/month 200 min./month x $9.50/hour = $31.66/month	$285/month (not including helper's time)
Less time for training on new procedures	Before: Helper had to return 3 times to assist with new procedure After: No help required		
Less need for manager to repeat or paraphrase assignments	Before: 4-5 repetitions/ assignment After: 1 repetition/ assignment		
Willingness to contribute ideas			
Shared innovative idea that eliminated a step in manufacturing process	Saved 2-3 minutes/"leg"	Reported by quality team leader	$7,000/year
Created new device to improve product quality and ease of production (fixture to hold item while buffing it)	Before: workers produced 1 1/2 items/day After: workers produced 5 items/day with higher quality and less effort		
Improved ability to explain thought process when making suggestions	Before: Just went along step-by-step with what supervisor said, regardless of efficiency and effectiveness After: No longer afraid to suggest how work could be sequenced differently		
Greater understanding of conversation in team meetings	Participates more readily		

On-the-job learning application	Change (before and after program)	Calculation*	$ Value/Cost savings
Greater capacity for expanded job responsibilities			
Improved language comprehension led to increased ability to take on special projects, adding flexibility	Before: 0 projects/week After: 3-4/week	Reported by supervisor: 30% of another $20,000 position is now handled without new hire	$6000/year
Have more confidence in all English-speaking environment	Would accept a job opportunity in another department that was previously refused		
Lower error rate			
More comfortable asking for instructions to be repeated	Before: 6 errors/month After: 2 errors/month	6 errors x 5 mins./error = 30 min. x $8.00/hour = $4/month 2 errors x 5 mins./error = 10 min. x $8.00/hour = $1.34/month $1-$30 for replacement parts/error	$2.66/month plus $4-$120/error for parts savings (4 errors avoided)
Improved ability to read special instructions on orders	Before: Translating instructions improperly or ignoring them After: Greater accuracy	Reported by supervisor	Reduction in scrap

On-the-job learning application	Change (before and after program)	Calculation*	$ Value/Cost savings
Greater interest in and sensitivity to work environment			
Better able to understand conversations within team	Before: Understood 20% of conversations After: Understood 50-60% of new info during meetings and 80-85% of conversations related to familiar work topics		
Better able to read company communications	Greater interest in written company information, newsletters, events postings, etc.		

don/globeval

Global 2000 Project Evaluation
Summary of Findings

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for
Continuing Education Institute
and the Global 2000 Executive Board

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Purpose of Evaluation

To evaluate the effectiveness of Global 2000 and establish its business value...

1) What is the relationship between:

- Classroom knowledge
- Actual performance on the job
- Resulting business impact of new performance?

2) How can the program be improved in order to maximize its business value in the future?

Methodology

In-depth interviews with students using Field Action Testing™

- Internal dialogue analysis
- Mutual exchange of value
- Unique depth, breadth, and precision in results

Followup interviews with supervisors and others as needed to validate figures

Outcomes:

- Specific applications of learning on the job and their resulting business impact
- Barriers to learning and its implementation
- Improvement opportunities

Some Important Findings

Key Learnings: Pronunciation, grammar, comprehension, reading, and writing

Business results from application:

- More effective verbal communication
- Greater efficiency
- Willingness to contribute ideas
- Greater capacity for expanded job responsibilities
- Lower error rates

Other learnings

A sampling of current best teaching practices

- Solicit group input
- Understand and value differences
- Create safety for error
- Check in regularly!
- Help with pronunciation
- Use partners and small group exercises
- Have class read current news, magazines, books and summarize, noting new vocabulary
- Have class bring in own vocabulary words (could be work-related)
- Provide plenty of opportunity for conversation

Some previously hidden barriers to learning and its implementation

- Uncertainty about ability to be successful (withdraw? cope?)
- Beliefs about the group that may/may not be accurate
- Belief about irreconcilable differences between learning style and teaching style
- Fear of speaking in front of a group in general
- Not enough opportunity on the job to converse in English and learn from others

Improvement Opportunities: *Specific solutions were jointly designed by students and researchers during the interview*

Classroom:

- Check in frequently
- Avoid private decision-making
- Encourage open sharing and testing of perceptions, in a safe and productive manner
- Teach and use tools to expand dialogue and produce shared meaning

On-the-job:

- More opportunities to speak with English-speaking people
- More opportunities to read and write, preferably with coaching
- Assist students in finding a mentor who can support and encourage their efforts to learn

Recruiting new students:

- Encourage voicing of objections and concerns
- Address cultural differences around notion of adults "going to school"
- Invite former students to share experiences and value received